IN THE CLAIMS

Please amend the claims to read as follows:

Before Claim 1, please insert "We claim"

1. (currently amended) An X-ray tube ~~(11/12)~~ for high dose rates, in which an anode ~~(31/32)~~ and a cathode ~~(21/22)~~ are disposed opposite each other in a vacuumized internal chamber ~~(41/42)~~, electrons ~~(e^-)~~ being able to be accelerated to the anode by means of impressible high voltage, the cathode ~~(21/22)~~ comprising a thin layer of an electron ~~(e^-)~~ -emitting material, and the cathode ~~(21/22)~~ comprising a substrate substantially transparent for X-ray radiation ~~(γ)~~, wherein

the X-ray tube ~~(11)~~ is designed as an anode hollow cylinder ~~(21)~~ with a coaxial cathode hollow cylinder ~~(31)~~ inside.

2. (currently amended) The X-ray tube ~~(11/12)~~ according to claim 1, wherein the cathode ~~(21/22)~~ closes the vacuumized internal chamber ~~(41/42)~~ ~~toward~~ from the outside.

3. (currently amended) The X-ray tube ~~(11/12)~~ according to ~~one of the claims~~ claim 1 ~~or 2~~, wherein the anode ~~(31/32)~~ comprises gold and/or molybdenum and/or tungsten and/or a compound of the metals, for conversion of the electrons ~~(e^-)~~ into X-ray radiation ~~(γ)~~.

4. (currently amended) The X-ray tube ~~(11/12)~~ according to ~~one of the claims~~ claim 1 ~~to 3~~, wherein the cathode ~~(21/22)~~ comprises a thermionic emitter ~~(72)~~.

5. (currently amended) The X-ray tube ~~(11/12)~~ according to ~~one of the claims~~ claim 1 ~~to 3~~, wherein the cathode ~~(21/22)~~ comprises a cold emitter ~~(72)~~.

6. (currently amended) The X-ray tube ~~(11/12)~~ according to claim 5, wherein the cold emitter comprises metal tips and/or graphite tips and/or carbon nano tubes.

7. (currently amended) A method for generating high dose rates with X-ray tubes ~~(11/12)~~, in which an anode ~~(31/32)~~ and a cathode ~~(21/22)~~ are disposed opposite each other in a vacuumized internal chamber ~~(41/42)~~, electrons ~~(e^-)~~ being accelerated to the anode ~~(31/32)~~ by means of impressible high voltage, a substrate substantially transparent for X-ray radiation (γ) being used in the cathode ~~(21/22)~~, and a thin layer or coating of an electron ~~(e^-)~~-emitting material being applied to the substrate wherein

used as the anode is an anode hollow cylinder ~~(21)~~ with a coaxial cathode hollow cylinder ~~(31)~~ inside.

8. (currently amended) The method according to claim 7, wherein the cathode ~~(21/22)~~ closes the vacuumized internal chamber ~~(41/42)~~ ~~toward~~ from the outside.

9. (currently amended) The method according to ~~one of the claims~~ claim 7 ~~or 8~~, wherein gold and/or molybdenum and/or tungsten and/or a compound of the metals is used for conversion of the electrons ~~(e^-)~~ into X-ray radiation ~~(γ)~~.

10. (currently amended) The method according to ~~one of the claims~~ claim 7 ~~to 9~~, wherein a thermionic emitter is used in the cathode ~~(21/22)~~.

11. (currently amended) The method according to ~~one of the claims~~ claim 7 ~~to 10~~, wherein a cold emitter is used in the cathode ~~(21/22)~~.

12. (previously presented) The method according to claim 11, wherein metal tips and/or graphite tips and/or carbon nano tubes are used for the cold emitter.

13. (currently amended) A method for producing an X-ray tube ~~(11/12)~~ for high dose rates, in which an anode ~~(31/32)~~ and a cathode ~~(21/22)~~ are disposed opposite each other in a vacuumized internal chamber ~~(41/42)~~, electrons ~~(e^-)~~ being accelerated to the anode ~~(31/32)~~ by means of impressible high voltage, a substrate substantially transparent for X-ray radiation ~~(γ)~~ being

used in the cathode ~~(21/22)~~, and a thin layer or coating of an electron ~~(e^-)~~-emitting material being applied to the substrate wherein

the X-ray tube ~~(11)~~ is designed as an anode hollow cylinder ~~(21)~~ with a coaxial cathode hollow cylinder ~~(31)~~ inside.

14. The method according to claim 13, wherein the cathode ~~(31/32)~~ closes the vacuumized internal chamber ~~(41/42)~~ ~~toward~~ <u>from</u> the outside.